

What is claimed is:

1. A microelectromechanical system comprising:
substrate means for fabricating microelectromechanical components thereon;
platform means, fabricated on said substrate means, for supporting a desired
5 optical element thereon, said platform means being elevatable in their entirety from said
substrate means; and

at least one rotatable lever means, fabricated on said substrate means, for applying
force to said platform means to achieve inclination of said platform means in at least a
first direction that is the same as a direction in which said lever means are rotatable.

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2. The microelectromechanical system of Claim 1 wherein said desired
optical element comprises one of an optically reflective surface, a diffraction grating, a
lens, and an optical polarizer.

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3. The microelectromechanical system of Claim 1 further comprising:
actuation means, fabricated on said substrate means, for rotating said lever means.

4. The microelectromechanical system of Claim 3 wherein said actuation
means comprise an electrostatic actuator.

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5. The microelectromechanical system of Claim 1 wherein said substrate
means comprises a silicon wafer.

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6. The microelectromechanical system of Claim 1 wherein said platform
means comprises a layer of one of monocrystalline and polycrystalline silicon deposited
on said substrate means.

7. The microelectromechanical system of Claim 1 wherein said lever means
comprise an A-frame structure.

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8. The microelectromechanical system of Claim 1 further comprising:

first compliant means for attaching said lever means to said platform at a first attachment location; and

second compliant means for attaching said platform means to said substrate means at a second attachment location.

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9. The system of Claim 8 wherein said first and second compliant means comprise springs.